

Operating Instructions

Automatic Turntable System

MODEL NO. **SL-H302**

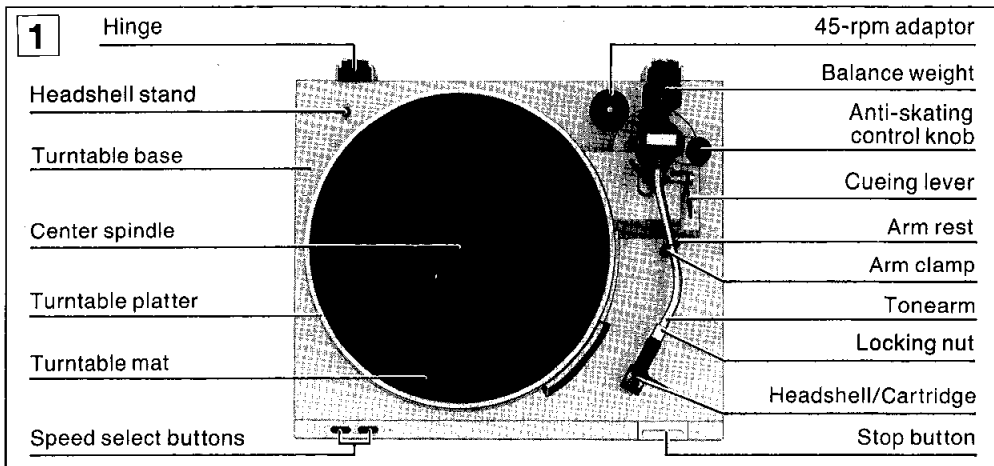


This apparatus was produced to "BS 800: 1977"

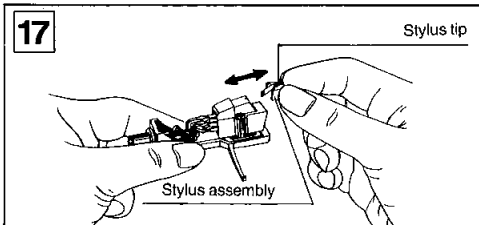
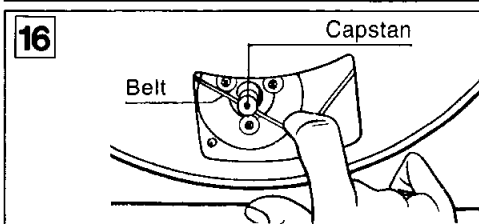
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Before operating this set, please read these instructions completely.

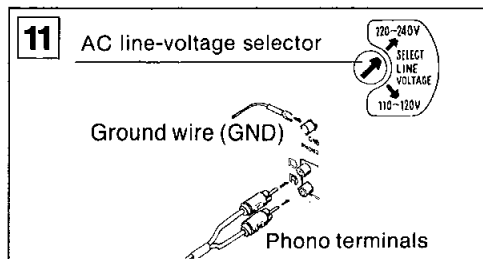
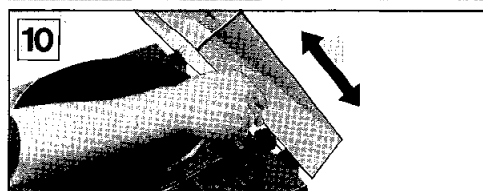
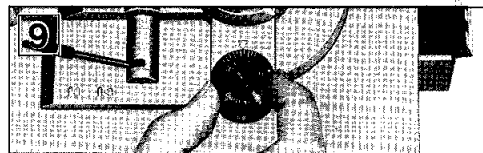
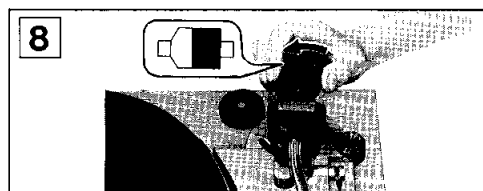
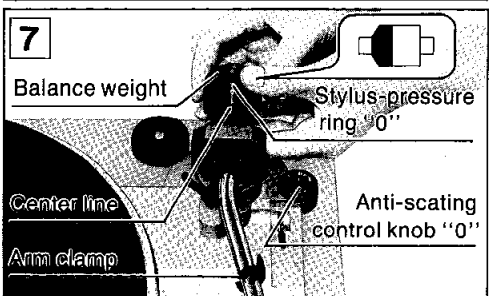
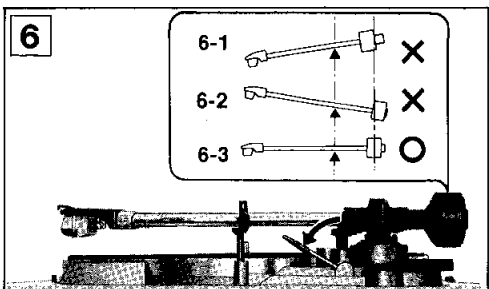
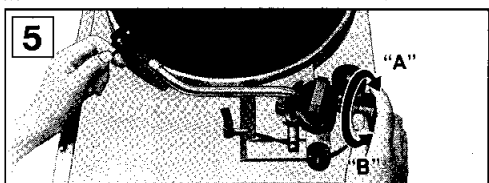
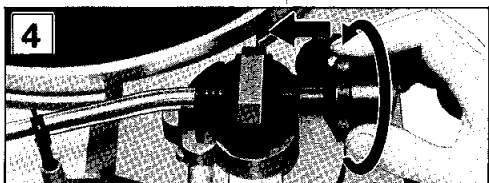
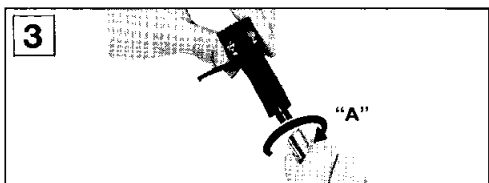
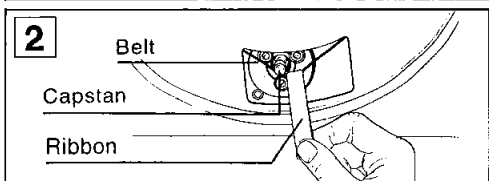
Parts identification



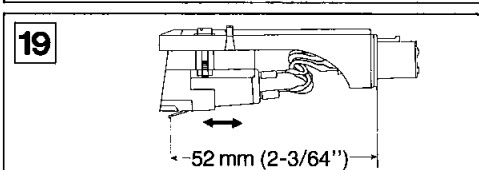
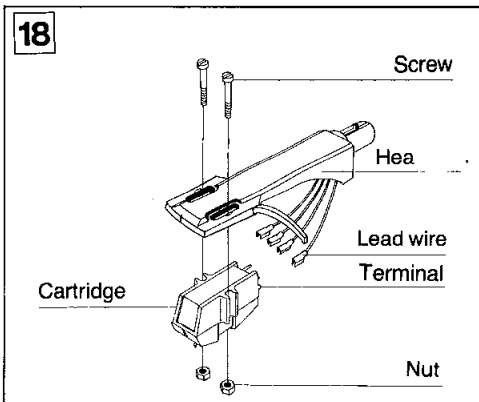
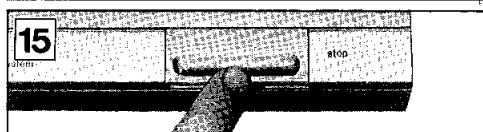
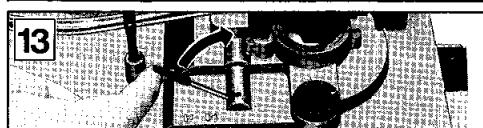
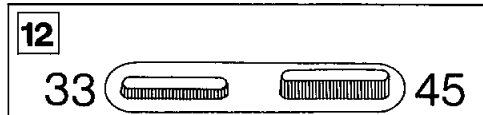
Notes and maintenance



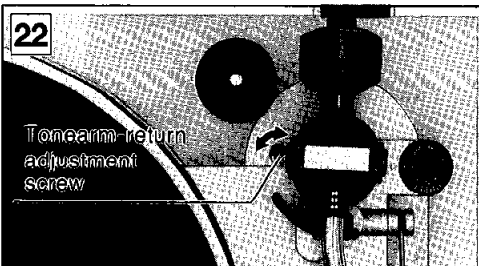
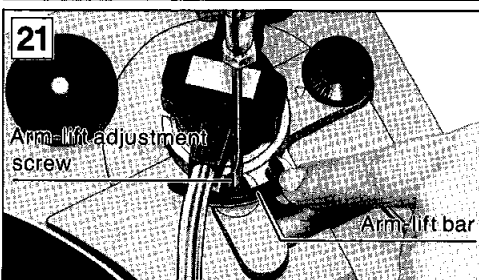
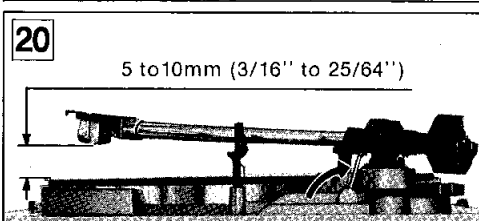
Assembly and set-up



How to operate



Adjustments



■ Transportation of the unit to distant places for removal and the like.

Pack up the unit in the reverse order to that for unpacking, using the packing materials furnished when the unit was purchased. Should there be no such packing materials, be sure to take the following steps.

- Remove the turntable platter together with the turntable mat, and wrap it up to prevent any damages.
- Return the tonearm to the arm rest, and fix it further with a tape or the like.
- Remove the balance weight and the headshell/cartridge from the tonearm to place them in a part container, and then wrap it up to avoid any damages.
- Wrap up the turntable base with a blanket or soft paper also for the prevention of any possible damages.

Replacement of part

■ Replacement of stylus (See Fig. 17.)

The unit is furnished with a diamond stylus.

The life of the stylus differs depending on the conditions of use, but it is recommended that you replace the stylus at the first sign of wear. About 500 hours of use is an approximate standard.

The replacement stylus for the unit is the EPS-270SD.

1. Remove the headshell/cartridge from the tubular arm. Hold the stylus assembly with your fingers and withdraw it slantwise, as shown in the picture.
2. Align the new stylus assembly with the square opening of the cartridge main body, and push it into the opening positively as far as it will go.

■ Installation of cartridge

When you install a cartridge, refer to the operation instructions of that cartridge.

During installation,, attach the stylus protector to guard the stylus tip from damage.

1. Connect the lead wires to the cartridge terminals.

The terminals of most cartridges are color coded. Connect each lead wire to the terminal of the same color.

White (L+) **Left channel+**

Blue (L-) **Left channel-**

Red (R+) **Right channel+**

Green (R-) **Right channel-**

2. Install a cartridge to the headshell, and tighten it with screws provided with the cartridges. (See Fig. 18.)

■ Adjustment of overhang (See Fig. 19.)

The overhang of this unit is 15 mm.

Loosen the mounting screws and move the cartridge forward or backward until the distance between the stylus tip and the plug becomes 52 mm (2-3/64") as shown in the picture.

Tighten the mounting screws without moving the cartridge. Adjust horizontal zero balance, stylus pressure and arm-lift height whenever you change the cartridge.

Adjustments

■ Adjustment of arm-lift height (See Figs. 20 and 21.)

The arm-lift height (distance between the stylus tip and record surface when cueing lever is at the "▼" position) has been adjusted at the factory before shipment to approximately 5 to 10 mm.

For using different cartridges available on the market or when further adjustments are particularly necessary, make adjustment as follows:

1. Disconnect the AC power plug.
2. Move the tonearm toward the center spindle. Attach the stylus protector, if available, to guard the stylus tip from damage.
3. Turn the adjustment screw clockwise or counterclockwise, while pushing the arm lift down.

Clockwise rotation

— distance between the record and stylus tip is reduced.

Counterclockwise rotation

— distance between the record and stylus tip is increased.

Note:

As the adjusting screw has a hexagonal head, be sure to make the adjustment while depressing the arm lift, or the screw will not move freely.

Also be sure that the hexagonal head retracts correctly into the arm lift when the latter is released.

■ Adjustment for automatic return position

(Remove the rubber cap.) (See Fig. 22.)

In cases where the tonearm tends to return before the playing has finished

— **rotate clockwise.**

In cases where the tonearm fails to return after the last groove of the record has been played

— **rotate counterclockwise.**

Features

■ DC Motor with Servo-Controlled Circuits

DC motor incorporates servo-controlled circuits as well as highlyreliable IC circuits in order to obtain superb rotational characteristics against any load fluctuations. In addition, the DC motor of this model consumes less than 0.5 watt, thanks to these two circuits, which means much less vibration caused by the motor.

■ Electronic Speed Switching

Even though this turntable is belt-driven, gone is the old conventional pulley type speed changing mechanism. Speed switching in this unit is fully electronic, thereby adding to the high degree of mechanical precision and reliability.

■ Automatic Tonearm Return

Extra convenience: at the end of the record, the tonearm lifts off and returns to its rest position automatically.

This feature not only makes life easier for the owner, but also prevents useless, irritating play of the lead-out grooves and the accompanying stylus wear.

■ Anti-Skating Force Device

■ Viscous-Damped Cueing

■ Hinged, Detachable Dust Cover

Placement

- Place the unit in a stable and horizontal position, where there is little or no vibration.
- Locate the unit as far away from the speakers as possible and isolate the unit from sound radiation from them.
- Do not place the unit where it is exposed to direct sun, dust, moisture or heat.
- Keep it in a well ventilated place.

Connections

■ Connect the AC power plug (See Fig. 11.)

Connect the AC power plug to an AC wall socket.

Caution:

Make sure that the turntable's AC line-voltage selector is matched to your local voltage before connecting the AC power plug.

Never connect to a DC socket.

If the pre-selected voltage is different from your local voltage turn the AC line-voltage selector with a screw-driver so that it corresponds to your local voltage.

In cases where the AC power plug is connected to the outlet (AC outlet) of the amplifier or receiver, make sure that the wattage indicated on the outlet equals or exceeds the turntable's requirements before connecting the power plug.

The AC line-voltage selector is located at the bottom base.

■ Connect the output terminals (See Fig. 11.)

Output terminals	Amplifier or Receiver
L (White) —————→	L Channel
R (Red) —————→	R Channel
GND (Spade lug) —————→	GND

Note:

Be sure to connect the ground terminal firmly to the amplifier or receiver. If this connection is not made or is loose, a power source "HUM" will result.

How to operate

1. Place a record on the turntable mat.
2. Push the speed select button to the desired record speed. (See Fig. 12.)
3. Remove the stylus protector.
4. Release the arm clamp.
5. Set the cueing lever to the "▼" position. (See Fig. 13.)
6. Move the tonearm over the desired groove. The turntable platter will start to rotate.
7. Set the cueing lever to the "▼" position. (See Fig. 14.) The tonearm will descend slowly onto the record and play will begin. When play is finished, the tonearm will automatically return to the arm rest (auto-return), and the turntable platter will stop rotation. The turntable platter will continue to rotate briefly due to its own inertia.

■ When you play a 45-rpm record with a large center hole

Place the 45-rpm adaptor on the center spindle. Set the speed select button to the "45" position.

■ How to stop play

Push the stop button.

The tonearm automatically returns to the arm rest, and the turntable stops rotating. (See Fig. 15.)

■ How to suspend play

Set the cueing lever to the "▼" position.

The stylus tip of the cartridge will be lifted from the record.

Notes and maintenance

■ Do not grasp or hold the tonearm during operation of the automatic-return mechanism.

■ When play is finished, be sure to secure the tonearm with the arm clamp.

After play is finished, if the unit is not to be used for some time, care should be taken to secure the tonearm to protect the stylus tip.

For the same reason, the stylus protector should also be attached.

■ Dust and dirt should be carefully removed from stylus tip or records.

Dust and dirt on the stylus tip or record may not only result in deterioration of tone quality, but also cause undue wear of the record and the stylus tip itself.

Special stylus tip brushes and record cleaners can be purchased in most electronic supply houses.

■ Wipe the dust cover and turntable base with a soft, dry cloth.

Never use any cleaners containing alcohol, benzine or thinner.

Use of a chemical dust cloth should also be avoided. Be sure that the dust cover is not exposed to insecticide spray.

To remove stubborn finger prints or grease spots, detach the dust cover and disconnect the AC power plug.

Use a soft cloth slightly moistened with a mild soap and water solution.

Do not wipe the dust cover during play, or the tonearm may be attracted toward the dust cover due to the generation of static electricity.

■ How to remove and install the turntable platter (See Fig. 16.)

The belt is connected to the capstan and the inner drive rim of the turntable platter.

Before removing the turntable platter, release the belt from the capstan.

When reinstalling the turntable platter, lower it over the turntable shaft and then put the belt onto the capstan.

Note:

Be careful not to let oil or grease contact the belt.

If grease inadvertently contacts the belt, disconnect the AC power plug first and wipe the belt clean with alcohol.

We want to thank you for selecting the SL-H302.
For optimum performance, we recommend that you read these instructions carefully.

Caution for safe use of this apparatus

Caution

- This apparatus is double insulated, safety earth not required.

Important

- The wires in this mains lead are coloured in accordance with the following code:

Blue:	Neutral
Brown:	Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows.

The wire which is coloured **BLUE** must be connected to the terminal which is marked with the letter **N** or coloured **BLACK**.
The wire which is coloured **BROWN** must be connected to the terminal which is marked with the letter **L** or coloured **RED**.

- This equipment should be disconnected from the mains when not in use.

Before use

Caution:

Never connect the AC power plug before assembly has been completed.

Attach the dust cover last, so that assembly and adjustments can be made most conveniently.

■ Checklist of parts

Turntable unit	1
Turntable platter	1
Turntable mat	1
Dust cover	1
45-rpm adaptor	1
Balance weight	1
Headshell/cartridge	1

Assembly and set-up

■ Installation of turntable platter

1. Place the turntable platter on the center spindle.
2. Attach the belt to the capstan using the ribbon as shown in the picture. Then, remove the ribbon. (See Fig. 2).
3. Place the turntable mat on the platter.

Note:

After having placed the turntable mat on the turntable platter, manually rotate the turntable platter clockwise about 10 times.

This will disengage the automatic mechanism from the tonearm gear, which, in rare cases, may have moved out of its normal position during transportation.

■ Installation of headshell (See Fig. 3.)

Insert the headshell into the front end of the tubular arm, and turn the locking nut clockwise (in the direction shown by the arrow "A"), with the headshell firmly held horizontally.

■ Installation of balance weight (See Fig. 4.)

Place the balance weight on the rear shaft of the tonearm.

■ Adjustments of horizontal zero (0) balance and stylus pressure (See Figs. 5 and 6.)

1. Remove the stylus protector. Be careful not to touch your fingers to the stylus tip.
2. Release the arm clamp and lift the tonearm from the arm rest to free it.
3. Turn the entire balance weight clockwise (indicated by the arrow "A") or counterclockwise (indicated by the arrow "B") until the tonearm is approximately balanced horizontally (floats freely.) (See Fig. 6-3.)

Note:

Fig. 6-1 Excessive forward advancement of the balance weight causes the cartridge side to be lowered.

Fig. 6-2 Excessive backward retreatment of the balance weight causes the cartridge side to be raised.

Fig. 6-3 Upon balancing between the balance weight and cartridge, the tonearm is held horizontal.

During the adjustment of the horizontal zero (0) balance, be careful that the stylus tip of the cartridge does not contact the turntable mat or turntable base.

4. After the tonearm is horizontally zero (0) balanced temporarily refasten the tonearm with the arm clamp.
5. Hold the balance weight stationary with one hand as shown in the picture, and rotate only the stylus-pressure ring to bring the numeral "0" of the ring into alignment with the center line on the tonearm rear shaft.
The adjustment of the horizontal zero (0) balance is now completed. (See Fig. 7.)
6. After adjusting the horizontal zero (0) balance, turn the balance weight clockwise in the direction of the arrow and align to the correct stylus pressure. (See Fig. 8.)
(The stylus pressure of this unit is 1.75 g.)

As the stylus-pressure ring moves in step with the balance weight, proper stylus pressure can be selected by directly reading the graduated ring.

Note:

Set the stylus pressure to the maximum recommended value for your cartridge in cases where the record has an extremely high recording level, or where the unit is operated in a room at low temperature, or in places in which the unit is subjected to vibrations.

■ Adjustment of anti-skating control

Set the anti-skating control knob to the same value as the stylus pressure. (See Fig. 9.)

■ Installation of dust cover (See Fig. 10.)

Place the dust cover into position from directly above, holding it at both sides. For detaching the dust cover, be certain first to raise it as illustrated before removal.

Note:

Opening or closing of the dust cover during play should be avoided. This may not only cause undesired vibrations, but also result in skipping of the stylus.

If you must open the dust cover during play, do so as gently as possible.

For longer and safer use of this unit

In order to receive the best service from this unit, and for the safest operation, carefully read the following information.

■ Power source

It is very dangerous to use this unit at a voltage which is different from the rated voltage.

There is danger of combustion if the unit is connected to a power source which is different from the rated voltage.

Be very careful concerning this point.

Direct current cannot be used.

There are some places, such as ships, where direct current is used as the power source. Before connecting the unit, confirm the power source.

■ Connection of power cord

Be sure to never touch the power cord with wet hands because there is danger of electric shock. This is true, of course, of all electric equipment.

Do not pull the power cord.

Never pull the power cord to disconnect it. Always pull the plug only.

■ Location of unit

Choose a place which is not in direct sunlight.

Select a place which will assure good ventilation.

■ Never place heating equipment nearby.

Be sure to keep stoves and other sources of heat away from this unit, because heat radiated by such equipment may cause deformation of plastic parts or damage the cabinet, or, at worst, cause a fire.

■ Especially for families with children

Take care that no small items, such as metal objects, are put inside this unit.

In addition, children should be especially warned not to put anything into the ventilation holes, such as toys or a screwdriver, because these things may cause an electric shock or result in a malfunction of the unit.

■ If water spills on the unit

If water should happen to spill on the unit, from an overturned vase for example, there is danger of fire or electric shock. Disconnect the power plug from the electric outlet immediately, and contact the store from which the unit was purchased.

■ Reconstruction can cause accidents

Absolutely never try to remodel, reconstruct or repair this unit yourself. Do not attempt to touch any internal parts because to do so may result in an electric shock or other accident.

■ Be sure the power is off.

After you have finished using this unit, check once more to be sure that the power is off. If the unit is left with the power on for a long period of time, it may not only be damaged, thus shortening its useful life, but may also lead to a dangerous accident.

Specifications

■ General

Power supply:	~110-120/220-240V, 50 or 60 Hz
Power consumption:	2 W
Dimensions: (W×H×D)	43.0×12.6×36.9 cm (16-59/64"×4-31/32"×14-17/32")
Weight:	4.3 kg (9.5 lb.)

■ Turntable section

Type:	Automatic turntable (Auto return, Auto stop)
Drive method:	Belt drive
Motor:	DC motor
Drive control method:	DC servo control
Turntable platter	Aluminum diecast, 30.4 cm (12")
Turntable speeds:	33-1/3 rpm and 45 rpm
Wow and flutter:	0.05% WRMS (JIS C5521) ±0.08% peak (IEC 98A Weighted)
Rumble:	-65 dB (IEC 98A Weighted)

■ Tonearm section

Type:	Universal tonearm
Effective length:	230 mm (9-1/16")
Overhang:	15 mm (19/32")
Tracking error angle:	Within 2°32' at the outer groove of 30 cm (12") record Within 0°32' at the inner groove of 30 cm (12") record
Offset angle:	22°
Stylus pressure adjustment range:	0~2.5 g
Applicable cartridge weight range:	5.5~9 g 14~17.5 g (including headshell)
Headshell weight:	8.5 g

■ Cartridge section

Model No.	EPC-270C
Type:	Moving magnet
Frequency response:	20 Hz to 25 kHz 20 Hz to 15 kHz ±2 dB
Output voltage:	3.2 mV at 1 kHz 5 cm/s. zero to peak lateral velocity
Output voltage:	[9 mV at 1 kHz 10 cm/s. zero to peak 45° velocity (DIN 45 500)]
Channel separation:	25 dB at 1 kHz
Channel balance:	Within 2 dB at 1 kHz
Compliance (dynamic):	10×10 ⁻⁶ cm/dyne at 100 Hz
Stylus pressure:	1.75±0.25 g (17.5±2.5 mN)
Load impedance:	47 kΩ to 100 kΩ
Weight:	6.0 g (cartridge only)
Replacement stylus:	EPS-270SD

Specifications subject to change without notice.
Weight and dimensions shown are approximate.

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